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CPY - TOYJ

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FS - CPI

IC - B01J27/128 ; C07B61/00 ; C07C17/02 ; C07C19/045

MC - E10-H03C4 N02-A N04-D01

M3 - [01] H6 H602 H608 H681 H689 M280 M312 M321 M332 M342 M363 M391 M416  
M424 M620 M720 M903 M904 M910 N213 N309 N322 N411 N513 N522; R00811-P;  
0811-P

- [02] A426 A940 C017 C100 C730 C801 C803 C804 C805 C806 C807 M411 M730  
M903 M910 Q421; 1939-S

PA - (TOYJ) TOSOH CORP

PN - JP7330639 A 19951219 DW199608 C07C19/045 005pp

PR - JP19940127398 19940609

XA - C1996-024283

XIC - B01J-027/128 ; C07B-061/00 ; C07C-017/02 ; C07C-019/045

AB - J07330639 Prepn. of 1,2-dichloroethane (I) comprises reaction of ethylene with chlorine in (I) solvent in the presence of a small amt. of oxygen and metal chloride catalyst. Ethylene and chlorine are bubbled with a static mixer to produce bubbles with an average dia. of upto 2.0 mm, and fed into a soln. circulation-type reactor under the conditions that the soln. superficial velocity in a column (SV) is 0.2-1.5 m/s, the ratio of ethylene gas SV/soln. SV is upto 0.50, the value of ethylene gas SV/soln. SV power 2 is upto 1.0 and the reaction temp. is 70-160 degrees C.

- Pref. metal chloride is ferric chloride. The molar ratio of supplying chlorine/ethylene is 0.98-1.02. Oxygen partial pressure is 50 kPa and the reaction pressure is 200-800 kPa.

- USE/ADVANTAGE - Used as a material for vinyl chloride monomers and ethylene diamine. By-production of 1,1,2-trichloroethane is controlled so that (I) is prepd. in 99.8% yield with 99.9% selectivity and 99.9% conversion of ethylene.

- In an example, 1,2-dichloroethane solvent was circulated into a reactor at ascending mode at 14.0 m<sup>3</sup>/h soln. flow rate at 0.50 m/s soln. SV. Ethylene gas was fed at 8.0 Nm<sup>3</sup>/h from a nozzle below and chlorine gas contg. 1.0 vol% oxygen was fed at 8.1 Nm<sup>3</sup>/h from another nozzle below. The molar ratio of chlorine/ethylene was 1.002. The reaction was carried out at 100 deg.C under 396 kPa while taking out the overflowing reaction soln. while supplying ferric chloride. Ethylene gas SV was 0.10 m/s, the average bubble dia. of ethylene and chlorine was 1.4 mm and the concn. of ferric chloride catalyst was 280 wt. ppm.(Dwg.0/0)

CN - R00811-P

DRL - 0811-P 1939-S

IW - PREPARATION DI CHLOROETHANE VINYL CHLORIDE MONOMER MATERIAL COMPRISE  
REACT ETHYLENE@ CHLORINE@ SOLVENT PRESENCE OXYGEN@ METAL CHLORIDE  
CATALYST STATIC MIX

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**CATALYST STATIC MIX**

**NC - 001**

**OPD - 1994-06-09**

**ORD - 1995-12-19**

**PAW - (TOYJ ) TOSOH CORP**

**TI - Prepn. of 1,2-di:chloroethane for vinyl chloride monomer material -  
comprises reacting ethylene@ with chlorine@ in solvent in presence of  
oxygen@ and metal chloride catalyst using static mixer**